



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,616	12/12/2003	Raymond C. Kurzweil	14202-004001	1709
26161	7590	05/13/2008	EXAMINER	
FISH & RICHARDSON PC			BEHNCKE, CHRISTINE M	
P.O. BOX 1022			ART UNIT	PAPER NUMBER
MINNEAPOLIS, MN 55440-1022			3661	
MAIL DATE		DELIVERY MODE		
05/13/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/734,616	Applicant(s) KURZWEIL, RAYMOND C.
	Examiner CHRISTINE M. BEHNCKE	Art Unit 3661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(o).

Status

- 1) Responsive to communication(s) filed on 22 January 2008.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-21 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 26 May 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-146/08)
 Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____
- 5) Notice of Informal Patent Application
 6) Other: _____

DETAILED ACTION

This office action is in response to the Remarks filed 1/22/2008, in which claims 1-21 were presented for examination.

Response to Arguments

The Examiner notes the correction of a typographical error in the Office action mailed 8/22/2007: the 103(a) rejection heading had stated the rejection of claims 5, 6, and 17. The heading should have read, corresponding to the rejected claims in that section, claims 6, 7, and 17.

Applicant's arguments filed 1/22/2008 have been fully considered but they are not persuasive. Regarding the applied reference Yee, Applicant contends Yee does not teach tactile sensors along the exterior of the robot. The Examiner respectfully disagrees. The portion of Yee cited by the Applicant for support of the lack of sensors is not descriptive of the robot. Figure 7 is illustration of the gripper of the robot; tactile sensors are described as being on the exterior of the robot (sensor 67, column 7, lines 52-58). Applicant contends that Yee does not describe a body suit, merely gloves. The Examiner respectfully disagrees. Based on the broadest reasonable interpretation of the term "body suit" and the lack of further definition claimed or argued by the Applicant, Yee anticipates the claim language by describing a glove that is an item of clothing that is wore by the user on their body (see Figure 6 and corresponding description). Applicant contends the Yee does not describe actuators along the body suit. The Examiner respectfully disagrees. Yee explicitly states "reflecting glove having vibration actuators 66 . . ." (Column 7, lines 49-50.) Applicant contends Yee merely describes a

helmet not goggles. Applicant does not further distinguish what is meant by "goggles".

The Examiner respectfully disagrees. Based on the broadest reasonable interpretation of the entire claim language, the "virtual reality" helmet that includes dual eye-displays to render video signals received from the camera of the robot (column 5, lines 11-37) meets the claimed limitation. Applicant further contends Yee does not describe a communication network. The Examiner disagrees; Yee describes the robot and controller transmitting data by wireless means and a communication system 14.

Regarding claims 6, 7, and 17, Applicant contends the references Yee and Abbasi are not obvious to combine since "Yee is not concerned with using a robot as a surrogate to encounter a second user" and any combination would require the parts of Abbasi to replace the robot of Yee. The Examiner disagrees. The test for combining references is what the combination of disclosures taken as a whole would suggest to one or ordinary skill in the art. *In Re McLaughlin*, 170 USPQ 209 (CCPA 1971). In the robotic art there is a high level of ordinary skill, and it would have been obvious to one of such ordinary skill to combine the teachings as explained below.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-5, 8-16, and 18-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Yee et al., US 6,016,385.

(Claim 1) Yee discloses a virtual reality encounter system comprising: a humanoid robot having tactile sensors positioned along the exterior of the robot (column

7, lines 49-58), the sensors sending tactile signals to a communications network (column 4, lines 5-8); and a body suit having tactile actuators (column 8, lines 10-15), the actuators receiving the tactile signals from the communications network (column 4, lines 5-8).

(Claim 2) Yee further discloses motion sensors positioned throughout the body suit, the motion sensors sending motion signals corresponding to movements of each sensor relative to a reference point (column 6, lines 15-31), the motion signals transmitted to the communications network (column 4, lines 5-8); and the humanoid robot, receiving from the communications network the signals from the motion sensors (column 6, lines 54-58), the signals from the motion sensors causing a movement of the robot that is correlated to the movement of the body suit (column 6, lines 59-66).

(Claim 3) Yee further discloses wherein the robot includes actuators corresponding to the motion sensors, the actuators causing the robot to move (column 6, lines 54-66).

(Claim 4) Yee further discloses wherein the robot has life-like features comprising: a body (figure 3); a camera coupled to the body, the camera for sending video signals to the communications network (cameras 22, figure 1); and a microphone coupled to the body, the microphone for sending signals to the communications network (column 4, line 51-column 5, line 10).

(Claim 5) Yee further discloses a set of goggles including a display to render the video signals received from the camera and a transducer to transduce the audio signals received from the microphone (column 4, lines 51-column 5, line 10, element 24).

(Claim 8) Yee further discloses wherein the communications network comprises an interface having one or more channels for: receiving the audio signals from the microphone (column 4, lines 5-8 and lines 52-67); receiving the video signals from the camera (column 5, lines 31-37); sending the audio signals to the set of goggles (column 5, lines 1-10); and sending audio signals to the transducer (column 5, lines 1-10, figure 1).

(Claims 9 and 18) Yee further discloses wherein the robot body includes an eye socket and a camera is positioned in the eye socket (column 5, lines 11-37).

(Claims 10 and 19) Yee further discloses wherein the body of the robot includes an ear canal and a microphone is positioned within the ear canal (column, line 52-column 5, line 1).

(Claim 11) Yee further discloses wherein the headset of the user comprises a receiver to receive the video signals (column 5, lines 11-37).

(Claim 12) Yee further discloses the robot comprises a transmitter to wirelessly send the audio, tactile, motion, and video signals to the communications network (antenna 30).

(Claim 13) Yee discloses a method of having a virtual encounter comprising: sending tactile signals to a communications network from tactile sensors coupled to a humanoid robot (column 7, lines 49-58), the tactile sensors positioned along the exterior of the robot (column 7, lines 49-58); and receiving the tactile signals from the communications network at a body suit having tactile actuators (column 4, lines 5-8).

(Claim 14) Yee further discloses sending motion signals from motion sensors positioned throughout the surface of a human, the motion signals corresponding to movements of each sensor relative to a reference point (column 6, lines 15-31), the motion signals being transmitted to a communications network (figure 1); receiving at the humanoid robot, the motion signals sent by the motion sensors (column 6, lines 54-58); and causing a movement of the robot that is correlated to a movement of the human based on the motion signals received from the motion sensors (column 6, lines 59-66).

(Claim 15) Yee further discloses wherein receiving comprises receiving motion signals from the motion sensors at corresponding motion actuators coupled to the robot, causing a movement comprises the motion actuators causing the robot to move (column 6, lines 54-66).

(Claim 16) Yee further discloses sending audio signals over the communications network, the audio signals being produced from a microphone coupled to the robot (column 4, lines 5-8 and lines 52-67); sending video signals to the communications network, the video signals being produced from a camera coupled to the robot (column 5, lines 31-37); rendering the video signals received from the communications network using a display device embedded in a set of goggles (column 5, lines 31-37); and transducing the audio signals received from the communications network using a transducer embedded in the set of goggles (column 5, lines 1-10).

(Claim 20) Yee further discloses wherein the set of goggles comprises a receiver to receive the video signals (column 5, lines 31-37).

(Claim 21) Yee further discloses wherein the robot further comprises a transmitter to wirelessly send the audio, motion, tactile, and the video signals to the communications network (figure 3).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 6, 7 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yee et al, in view of Abbasi, US 6,786,863.

Yee discloses the virtual reality system describes wherein one user has control of a robot that duplicates the actions and motion of the operator and senses the condition of the environment of the robot, transmitting the information back to the operator to modify the operation of the robot accordingly (column 2, line 65-column 3, line 25). Yee does not describe a robot at a first location and a second set of goggles at a second location. However, Abbasi teaches a remote physical contact system and method wherein a first surrogate is at a first location, second surrogate in a second location, the second surrogate having a second microphone and second camera (Figure 1, elements 35B, 40B and 45B); a second display to receive the video signals from the first camera and second earphone to receive the audio signals from the first microphone (figure 1, elements 25, and figure 6); and further comprising a first communication gateway in the first location a second communication gateway in the second location, the second processor connected to the first processor via a network (computer network 30 between computers 15 and 25). It would have been obvious to one of ordinary skill in

Art Unit: 3661

the art at the time of the invention to combine the system and method of Yee with the teachings of Abbasi because as Yee suggests using a robot at a second general environment allows the operator to experience the environment of the robot "exactly the same way that a human would sense the conditions, sends signals to the operator which the operator senses in exactly the same way as if he were to take the place of the robot (column 1, lines 20-27)". Yee further describes "A main purpose of the robot head is to provide a visual interface between the operator and people who encounter the robot. It is intended that the robot of this invention interact frequently with the general population." (Column 5, lines 41-49) Yee implicitly teaches using the robot as a surrogate at a second location remote from the user. Abbasi teaches the use of remote surrogates and expands the notion by using dual surrogates for teleconferencing or computer communications, adding a capability to engage in all types of physical contact to "provide for the tactile sensation so inherent in many forms of human contact." (Column 1, lines 44-64).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTINE M. BEHNCKE whose telephone number is (571)272-8103. The examiner can normally be reached on 8:30 am- 5pm.

Art Unit: 3661

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CMB

/Thomas G. Black/
Supervisory Patent Examiner, Art Unit 3661